

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
13 January 2005 (13.01.2005)

PCT

(10) International Publication Number
WO 2005/004038 A1

(51) International Patent Classification⁷: **G06K 9/00, G21K 4/00, A61B 5/05, G06F 19/00, A61B 6/00**

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(21) International Application Number:

PCT/IB2004/051043

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(22) International Filing Date: 29 June 2004 (29.06.2004)

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BE, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CY, CZ, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, SZ, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.

(25) Filing Language: English

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(26) Publication Language: English

Published:

— with international search report

(30) Priority Data:
03102049.8 8 July 2003 (08.07.2003) EP

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

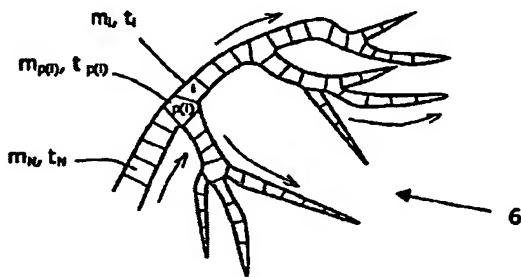
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(54) Title: RECONSTRUCTION OF THE CURRENT FLOW IN A VESSEL SYSTEM



(57) **Abstract:** The invention relates to a method of reconstructing the current flow, or the bolus arrival times, in a vessel system (6). For the sections (i) of the vessel tree (6), bolus arrival times (m_i) are measured, for example in connection with an injection of contrast medium. Based on this measured data, linear programming is then used to calculate model bolus arrival times (t_{pi}), which, on the one hand, through minimization of the function $E = \sum m_i - t_{pi}$, are as close as possible to the measured data, and, on the other, by adherence to the boundary condition $\Delta_i = t_i - t_{p(i)} \geq 0$, ensure the monotony of the propagation, wherein p(i) is the index of the vessel section in front of vessel section (i). Preferably, as smooth as possible a progression is compelled by means of an additional minimization of $E_m = \sum |t_i - t_{pi}|^2$.